

Curriculum Vitae

Name George Barbastathis

Date of Birth January 20, 1971

Citizenship Greece; Permanent Resident of the United States of America

Education

National Technical University of Athens (Greece)	Dipl. EE	1993
California Institute of Technology	M.Sc. EE	1994
California Institute of Technology	Ph.D.	1998

Principal Fields of Interest

Optical imaging and lithography; holographic systems; 3D nanofabrication using 2D litho tools.

Professional Experience

University of Illinois at Urbana Champaign	
Postdoctoral Research Associate	11/97-02/99
Massachusetts Institute of Technology	
Assistant Professor of Mechanical Engineering	03/99-06/02
Esther & Harold E. Edgerton Assistant Professor	07/02-present

Consulting Experience

Holoplex, Inc.	04/97-09/97
University of Southern California (School of Medicine)	04/97-09/97
Rockwell International Science Center	11/98-11/98
Parthenon Capital	04/00-04/00
Venture Investment Management Company	11/00-01/01
Silicon Valley Group (Lithography Division)	12/00-01/01
Ondax, Inc. (Pasadena, CA)	02/01-present
Fliesler, Dubb, Meyer & Lovejoy LLP (San Francisco, CA)	07/01-08/01
Aprilis, Inc.	03/02-present
LumArray, LLP	07/02-present

Professional Service

Optical Society of America (OSA)	
Optics in Computing Technical Program Committee Member	08/00-01/01
Optics in Computing '03 Topical Meeting Program Co-Chair	12/01-06/03
Information Photonics '05 Topical Meeting General Co-Chair	11/03-06/05
Journal of the Optical Society of America A	

Topical Editor, Image Processing Conference on Lasers and Electro-Optics (CLEO) 2003 Program Subcommittee Member #5 (Holography, Wavemixing, Photorefractives, and Storage)	11/03- 05/02-
National Science Foundation (NSF) review panel member Integrated Sensing, Computation, and Networked Systems for Decision and Action	06/02
National Institutes of Health (NIH) review panel member Special Emphasis Panel member R01/SBIR: Quantitative Approaches to the Analysis of Complex Biological Systems	08/02-

Awards

National Fellowship Institute (Greece)	Sept. 1989-1993
Technical Chamber of Greece Excellence Award	June 1993
Nikolaos Kritikos Mathematics Award	June 1993
Charles Lee Powell Foundation Graduate Fellowship	Sept. 1993
3M Innovation Award	July 1999
National Science Foundation CAREER Award	May 2000
Esther & Harold E. Edgerton Career Development Chair	July 2002

Membership in Professional Organizations

Inst. of Electrical and Electronics Engineers	Member
Optical Society of America	Member
American Association for the Advancement of Science	Member

Publications

A. Publications in refereed journals

1. D. Psaltis, M. Levene, A. Pu, G. Barbastathis, and K. Curtis, "Holographic storage using shift multiplexing," Optics Letters 20 (7) 782-784, 1995.
2. G. Barbastathis and D. Psaltis, "Shift-multiplexed holographic memory using the two-lambda method," Optics Letters 21 (6) 429-431, 1996.
3. G. Barbastathis, M. Levene, and D. Psaltis, "Shift multiplexing with spherical reference waves," Applied Optics 35 (14) 2403-2417, 1996.
4. J-J. P. Drolet, E. Chuang, G. Barbastathis, and D. Psaltis, "Compact, integrated dynamic holographic memory with refreshed holograms," Optics Letters 22 (8) 552-554, 1997.

5. J. Ma, T. Y. Chang, J. Hong, R. R. Neurgaonkar, G. Barbastathis, and D. Psaltis, "Electrical fixing of 1,000 angle multiplexed holograms," Optics Letters 22 (14) 1116-1118, 1997.
6. G. Barbastathis, M. Balberg, and D. Brady, "Confocal microscope with volume holographic filter," Optics Letters 24(12):811-813, 1999.
7. G. Barbastathis and D. J. Brady, "Multi-dimensional tomographic imaging using volume holography" (invited paper), Proceedings of the IEEE, 87(12):2098-2120, 1999.
8. G. Barbastathis and A. Sinha, "Information content of volume holographic images," Trends in Biotechnology, 19(10):383-392, 2001.
9. A. Sinha and G. Barbastathis, "Resonant holography," Optics Letters, 27(6):385-387, 2002.
10. W. Liu, D. Psaltis, and G. Barbastathis, "Real-time spectral imaging in three spatial dimensions," Optics Letters, 27(10):854-856, 2002.
11. A. Sinha and G. Barbastathis, "Volume holographic telescope," Optics Letters, 27(19):1690-1692, 2002.
12. A. Stein and G. Barbastathis, "Axial imaging necessitates loss of lateral shift invariance," Applied Optics, 41(29):6055-6061, 2002.
13. A. Sinha and G. Barbastathis, "Resonant holography," Information Sciences, 149(1-3):13-20, 2003.
14. W. C. Shih, C. W. Wong, Y. B. Jeon, S.-G. Kim, and G. Barbastathis, "MEMS tunable gratings with analog actuation," Information Sciences, 149(1-3):31-40, 2003.
15. C.-W. Wong, Y.-B. Jeon, G. Barbastathis, and S.-G. Kim, "Analog tunable grating with piezoelectric actuation and sub-microradian resolution," Applied Optics, 42(4):621-626, 2003.
16. A. Sinha and G. Barbastathis, "Volume holographic imaging for surface metrology at long working distances," Optics Express, 11(24):3202-3209, 2003.
17. A. Sinha, W. Sun, T. Shih, and G. Barbastathis, "Volume holographic imaging in the transmission geometry," Applied Optics, 43(4):1533-1551, 2004.
18. K. Tian and G. Barbastathis, "Crosstalk in resonant holographic memories," Journal of the Optical Society of America A, 21:751-756, 2004.
19. K. Tian and G. Barbastathis, "Coherence patterns originating from incoherent volume sources," Optics Letters, 29:670-672, 2004.

20. C. W. Wong, P. T. Rakich, S. G. Johnson, M. Qi, Y. Jeon, E. P. Ippen, H. I. Smith, L. C. Kimerling, G. Barbastathis, and S.-G. Kim, "Strain-tunable silicon photonic band gap microcavities in optical waveguides," Applied Physics Letters, 84:1242-1244, 2004.
21. C. W. Wong, Y. B. Jeon, G. Barbastathis, and S.-G. Kim, "Analog piezoelectric-driven tunable gratings with nanometer resolution," Journal of MicroElectroMechanical Systems, accepted for publication.
22. A. Sinha, W. Liu, D. Psaltis, and G. Barbastathis, "Imaging with volume holograms," (invited article) Optical Engineering, special issue on volume diffractive optical elements, accepted for publication in Sept. 2004.
23. W. Liu, D. Psaltis, and G. Barbastathis, "Volume holographic hyper-spectral imaging," Applied Optics, accepted for publication.
24. A. Sinha and G. Barbastathis, "Broadband volume holographic imaging," Applied Optics, accepted for publication.
25. A. Sinha and G. Barbastathis, "N-ocular volume holographic imaging," Applied Optics, accepted for publication.

B. Proceedings of refereed conferences

1. A. Pu, G. Barbastathis, M. Levene, and D. Psaltis, "Shift-multiplexed holographic 3D disk," Paper OWA2, OSA Optical Computing Spring Topical Meeting, Salt Lake City, Utah, March 1995.
2. M. Levene, A. Pu, G. Barbastathis, and D. Psaltis, "Holographic storage using a novel shift multiplexing method," Paper CFL5, CLEO/QELS '95, Baltimore, MD, May 1995.
3. D. Psaltis, A. Pu, X. An, M. Levene, R. Denkewalter, and G. Barbastathis, "Real time image recognition experiments using holographic memories," IEEE Nonlinear Signal and Image Processing (NSIP) Workshop, Thessaloniki, Greece, June 1995.
4. G. Barbastathis, A. Pu, M. Levene, and D. Psaltis, "Holographic 3D disks using shift multiplexing," Paper F2.2, Optical Data Storage '95, San Diego, July 1995.
5. G. Barbastathis, A. Pu, and D. Psaltis, "Shift-multiplexed holographic 3D disk," Paper 2689-29, Diffractive and Holographic Optics Technology III, SPIE Photonics West '96, San Jose, CA, January/February 1996.
6. J.-J. P. Drolet, G. Barbastathis, and D. Psaltis, "Compact holographic memories," Paper OThA2, Optical Computing '96, Sendai, Japan, April 1996. Technical Digest vol. 1, p. 230-231.
7. J.-J. P. Drolet, G. Barbastathis, and D. Psaltis, "Integrated holographic memories," Paper CTuM2, CLEO/QELS '96, Anaheim, CA, June 1996. Technical Digest p. 164-165.

8. J. Ma, T. Chang, J. Hong, R. R. Neurgaonkar, G. Barbastathis, and D. Psaltis, "Electrical fixing of 1,000 angle-multiplexed holograms in SBN:75" (Invited), Optical Data Storage '96, Hawaii, July 1996.
9. D. Psaltis, G. Barbastathis, and A. Pu, "Holographic Memories," (Invited), Paper Mo-B6, ICO-XVII Meeting, Taejeon, Korea, Aug. 19-23, 1996.
10. D. Psaltis, J.-J. P. Drolet, G. Barbastathis, and E. Chuang, "Compact architecture for holographic storage" (Invited), Paper TuD1, LEOS '96 9th Annual Meeting, Boston, MA, Nov. 18-21, 1996.
11. E. Chuang, J.-J. P. Drolet, G. Barbastathis, and D. Psaltis, "Compact lens-less holographic memory," Optical Data Storage '97, Tuscon, AZ, April 1997.
12. E. Chuang, J.-J. P. Drolet, G. Barbastathis, and D. Psaltis, "Modular integrated dynamic holographic memory with refreshed holograms," Paper CTuA7, CLEO/QELS '97, Baltimore, MD, May 20-22, 1997. Technical Digest, p. 56.
13. C. Moser, G. Barbastathis, and D. Psaltis, "Real-time conoscopic corneal topographer," Paper CTuT2, CLEO/QELS '97, Baltimore, MD, May 20-22, 1997. Technical Digest p. 167-168.
14. G. Barbastathis, J.-J. P. Drolet, E. Chuang, and D. Psaltis, "Compact terabit random-access memory implemented with photorefractive crystals" (Invited), SPIE conference on Photorefractive Fiber and Crystal Devices: Materials, Optical Properties and Applications III, San Diego, CA, August 1997.
15. D. Psaltis, G. W. Burr, X. An, M. Levene, G. Barbastathis, and A. Pu, "Holographic memories" SPIE Proceedings vol. 3137 pp. 96-100, 1997.
16. G. Barbastathis, D. Psaltis, and C. Koch, "Awareness-based computation," Towards a Science of Consciousness -- Tuscon III, session C14, Tuscon, AZ, April 25-May 2, 1998.
17. G. Barbastathis and D. Brady, "Volume holographic imaging of three-dimensional objects," Paper 3633-20, SPIE Photonics West '99: Optoelectronics, San Jose, CA, January 1999.
18. G. Barbastathis and D. J. Brady, "Spatio-spectral tomography of luminescent objects with volume holograms," ICO XVIII Meeting, San Francisco, CA; SPIE Proceedings vol. 3749, pp. 398-399, 1999.
19. G. Barbastathis, "Imaging architectures with volume holographic elements," (invited paper) SPIE Critical Reviews CR76-14, 1999.
20. M. Balberg, G. Barbastathis, S. Fantini, D. J. Brady, "Confocal imaging through scattering media with a volume holographic filter," SPIE Photonics West, San Jose, CA, January 2000 (SPIE Proceedings vol. 3919, pp. 69-74)

21. M. Balberg, G. Barbastathis, D. J. Brady, B. K. Choi, C. Liu, "Holographic 3D imaging of micro-structures," SPIE Proceedings vol. 3801, pp. 202-207, 2000.
22. W. Liu, D. Psaltis, and G. Barbastathis, "Spatial and spectral imaging using volume holograms," Conference on Lasers and Electro-Optics (CLEO), Baltimore, MD, May 2001.
23. W. Liu, D. Psaltis, and G. Barbastathis, "Four dimensional real-time volume holographic image sensor," European Conf. on Biomedical Optics, Munich, Germany, June 2001.
24. G. Barbastathis and D. J. Brady, "Partially coherent volume holography," 8th Rochester Conference on Optical Coherence and Quantum Optics, Rochester, NY, June 2001.
25. G. Barbastathis, "Statistical solution to the two-point resolution problem," Signal Recovery and Synthesis and Integrated Computational Imaging Systems (ICIS-SRS), Albuquerque, NM, November 2001; Technical Digest pp. 33-35.
26. Andy. Stein, A. Sinha, and G. Barbastathis, "Axial imaging necessitates loss of lateral shift invariance," Signal Recovery and Synthesis and Integrated Computational Imaging Systems (ICIS-SRS), Albuquerque, NM, November 2001; Technical Digest pp. 26-28.
27. G. Barbastathis, A. Sinha, and M. Neifeld, "Information-theoretic treatment of axial imaging," Signal Recovery and Synthesis and Integrated Computational Imaging Systems (ICIS-SRS), Albuquerque, NM, November 2001; Technical Digest pp. 18-21.
28. Andy. Stein, G. Barbastathis, and A. H. Slocum, "Detection of tumor growth from differential acoustic measurements," Signal Recovery and Synthesis and Integrated Computational Imaging Systems (ICIS-SRS), Albuquerque, NM, November 2001; Technical Digest pp. 63-65.
29. G. Barbastathis, "Information content of volume holographic images," (invited talk) First SIAM conference on Imaging Science, Boston, MA, March 2002.
30. W.-C. Shih, C.-W. Wong, Y.-B. Jeon, S.-G. Kim, M. A. Schmidt, S. Desai, D. M. Freeman, A. Sinha, G. Nielson, and G. Barbastathis, "Analog tunable diffractive grating with milliradian resolution," Optical Fiber Communications (OFC) '02 conference, Anaheim, CA, March 2002.
31. Arnab. Sinha and G. Barbastathis, "Resonant holographic imaging," Optical Society of America Biomedical Topical Meetings (BIOMED) '02, Miami Beach, CA, April 2002.
32. W.-C. Shih, C.-W. Wong, Y.-B. Jeon, M. A. Schmidt, S.-G. Kim, and G. Barbastathis, "Electrostatic and piezoelectric analog tunable diffractive gratings," Conference on Lasers and Electro-Optics (CLEO) '02, Long Beach, CA, May 2002.
33. Arnab. Sinha and G. Barbastathis, "Resonant holography," Conference on Lasers and Electro-Optics (CLEO) '02, Long Beach, CA, May 2002.

34. C. W. Wong, W. C. Shih, Y. B. Jeon, S. Desai, D. M. Freeman, S. G. Kim, and G. Barbastathis, "Analog tunable gratings with sub-nanometer resolution," Solid-State Sensor, Actuator, and Microsystems Workshop, Hilton Head, SC, June 2002; Technical Digest pp. 342-345.
35. G. Barbastathis, A. Sinha, K. Tian, and W. Sun, "Resonant holography" (invited talk) SPIE Annual Meeting, Seattle, WA, August 2002.
36. G. Barbastathis, A. Sinha, and W. Sun, "Surface profilometry with volume holographic lenses and broadband illumination," Conference on Lasers and Electro-Optics (CLEO) '03, Baltimore, MD, June 2003 (paper CFE1).
37. C. W. Wong, P. T. Rakich, S. G. Johnson, M. Qi, Y. B. Jeon, G. Barbastathis, and S.-G. Kim, "Tunable photonic-bandgap microcavity waveguides at 1.55 μm ," Conference on Lasers and Electro-Optics (CLEO) '03, Baltimore, MD, June 2003 (paper CMM2).
38. C. W. Wong, Y. B. Jeon, G. Barbastathis, and S.-G. Kim, "Strain-tuning of nano-optical devices: tunable gratings and photonic crystals," Solid-State Sensors, Actuators, and Microsystems, June 2003 (paper 2B1.3).
39. S. M. Jurga, C. Hidrovo, J. Niemczura, H. I. Smith, and G. Barbastathis, "Nanostructured origami," IEEE Nanotechnology 2003, San Francisco, CA, Aug 12-14 (paper TR-4).
40. W. C. Shih, C. Hidrovo, S.-G. Kim, and G. Barbastathis, "Optical diversity by nanoscale actuation," IEEE Nanotechnology 2003, San Francisco, CA, Aug 12-14 (poster PQ-2).
41. A. Sinha, W. Sun, and G. Barbastathis, "Volume holographic imaging for surface metrology with long working distance," SPIE Photonics East, Providence, RI, October 2003.
42. A. Sinha, W. Sun, and G. Barbastathis, "Surface profilometry at large working distances using volume holographic optics," CLEO/IQEC 2004, San Francisco, CA, May 18-21 (paper CTuX4).
43. W. Sun, A. Sinha, G. Barbastathis, and M. A. Neifeld, "Volume holographic profilometry surface reconstruction with the Viterbi algorithm," CLEO/IQEC 2004, San Francisco, CA, May 18-21 (paper CTuX5).
44. G. N. Nielson, D. Seneviratne, F. Lopez-Royo, P. T. Rakich, F. Giacometti, H. L. Tuller, and G. Barbastathis, "MEMS based wavelength selective optical switching for integrated photonic circuits," CLEO/IQEC 2004, San Francisco, CA, May 18-21 (paper CTuFF5).
45. W. Sun and G. Barbastathis, "Rainbow volume holographic imaging," (post-deadline paper) CLEO/IQEC 2004, San Francisco, CA, May 18-21 (paper CPDA10).
46. W. Sun, A. Sinha, M. A. Neifeld, and G. Barbastathis, "Volume holographic surface profilometry with super resolution," (invited talk), SPIE Annual Meeting, Denver, CO, August 2-6, 2004 (paper 5557-2).

47. G. Barbastathis, H. J. In, W. Arora, and H. I. Smith, "Nanostructured Origami," SPIE Annual Meeting, Denver, CO, August 2-6, 2004 (paper 5554-22). **
48. H. J. In, W. Arora, T. Buchner, S. M. Jurga, H. I. Smith, and G. Barbastathis, "The Nanostructured Origami™ 3D fabrication and assembly process for nanomanufacturing," IEEE Nanotechnology 2004, Munich, Germany, Aug 12-14 (paper 8-12). **
49. G. Barbastathis, "Deformable nanostructures for free-space and integrated photonics," (invited talk), Optical MEMS 2004, Takamatsu, Kagawa, Japan, August 22-26.
50. G. Barbastathis, W. Sun, and K. Tian, "Novel diffractive optical elements and algorithms for real-time 3D and hyperspectral imaging," (invited talk) 2nd International Symposium on 3D data processing, visualization, and transmission (3DPVT), Thessaloniki, Greece, Sept. 6-9, 2004.

C. Unrefereed journal articles, chapters in edited books, newsletters, etc.

1. C. N. Capsalis, G. S. Barbastathis, and C. P. Chronopoulos, "Scattering of electromagnetic waves from nonlinear thin dielectric coatings," International Journal of Infrared and Millimeter Waves, 12 (9) 1045-1063, September 1991.
2. G. S. Barbastathis, and C. N. Capsalis, "Calculations of homogeneous nonlinear film transmittivity using a self-consistent linearizing method," International Journal of Infrared and Millimeter Waves, 15 (6) 1125-1138, June 1994.
3. J.-J. P. Drolet, G. Barbastathis, and D. Psaltis, "Integrated optoelectronic interconnects using liquid-crystal on-silicon VLSI," SPIE Critical Reviews CR62, 106-131, January 1996.
4. D. Psaltis, G. Barbastathis, and M. Levene, "Holographic 3D disks using shift multiplexing," in Trends in Optics, chapter 10; Anna Consortini, editor, vol. 3, p. 189-206, Academic Press 1996.
5. D. Psaltis, X. An, G. Barbastathis, A. Adibi, and E. Chuang, "Non-volatile holographic storage in photorefractive materials," SPIE Critical Reviews CR65, 181-213, May 1996.
6. G. Barbastathis and D. Psaltis, "Holographic multiplexing methods," chapter in Holographic Memories, H. Coufal, D. Psaltis, and L. Hesselink, editors (Springer-Verlag, 2000).
7. G. Barbastathis and D. J. Brady, "Imaging and storage with spherical-reference volume holograms," chapter in Photorefractive Optics, F. Yu and S. Yin, editors (Academic Press, 2000).
8. G. Barbastathis, "Imaging architectures with volume holographic elements," invited chapter in Three-Dimensional Television, Video, and Display, F. Okano and B. Javidi, editors, Springer-Verlag (to be published in 2002).

9. G. Barbastathis, "Volume holographic imaging," invited chapter in Opto-Mechatronic Systems: Techniques and Applications, H. S. Cho, editor, CRC Press (to be published in 2002).
10. G. Barbastathis and A. Sinha, "N-ocular volume holographic imaging," contributed chapter in Cooperative Control & Optimization, R. Murphey and P. Pardalos, editors, Kluwer Academic Publishers (to be published in 2003).
11. G. Barbastathis, "Volume holographic imaging," invited entry for the Encyclopaedia of Modern Optics, Hartcourt-Brace Publishers (to be published in 2003).
12. G. Barbastathis and A. Sinha, "Volume holographic telescopes," in SPIE "Optics in Information Systems" Technical Group Newsletter vol. 13, no. 1, p. 3.

D. Conferences without proceedings

1. A. Pu, K. Curtis, H.-Y. S. Li, G. Barbastathis, and D. Psaltis, "Storage density of peristrophic multiplexing," Paper MO5, OSA Annual Meeting, Dallas, TX, October 1994.
2. G. Barbastathis, J. Ma, D. Psaltis, T. Y. Chang, J. Hong, and R. R. Neurgaonkar, "Electrical fixing of angularly multiplexed holograms in SBN:75," Paper MB3, OSA Annual Meeting, Portland, Oregon, September 1995.
3. C. Moser, G. Barbastathis, and D. Psaltis, "Real-time corneal shape measurements using conoscopic holography," Paper MDDD5, OSA Annual Meeting, Rochester, NY, Oct. 20-24, 1996.
4. G. Barbastathis, and D. Psaltis, "Comparison of the Fourier and image plane geometries for high-density holographic storage," Paper MKK7, OSA Annual Meeting, Rochester, NY, Oct. 20-24, 1996.
5. G. Barbastathis and D. Brady, "Holographic confocal imaging," Paper ThM5, OSA Annual Meeting, Baltimore, MD, October 1998.
6. G. Barbastathis, "Imaging architectures using volume holograms," (invited paper) OSA Annual Meeting, Providence, RI, October 1999.
7. A. Sinha and G. Barbastathis, "Information content of volume holographic imaging," OSA Annual Meeting, paper MC1, Long Beach, CA, October 2001.
8. G. Barbastathis, "Partially coherent volume holographic imaging," OSA Annual Meeting, paper MC2, Long Beach, CA, October 2001.
9. A. Sinha and G. Barbastathis, "Volume holographic telescope," OSA Annual Meeting, paper MC4, Long Beach, CA, October 2001.

10. R. Menon, D. Gil, J. Rivas, G. Barbastathis, and A. Sinha, "Optimum volume holographic microscope," OSA Annual Meeting, paper MC5, Long Beach, CA, October 2001.
11. T. Savoie and G. Barbastathis, "Chirped shear interferometry," OSA Annual Meeting, paper TuO3, Long Beach, CA, October 2001.
12. G. Barbastathis, "Resonant holographic imaging," (invited talk) to be presented at OSA Annual Meeting, September 2002.
13. A. Sinha, W. Sun, T. Shih, and G. Barbastathis, "N-ocular holographic three-dimensional imaging," to be presented at OSA Annual Meeting, September 2002.
14. A. Sinha, K. Tian, W. Sun, and G. Barbastathis, "Resolution of resonant holographic imaging," to be presented at OSA Annual Meeting, September 2002.
15. A. Sinha, T. Shih, and G. Barbastathis, "Spectral imaging using volume holograms," to be presented at OSA Annual Meeting, September 2002.
16. W.-C. Shih, C. H. Hidrovo-Chavez, and G. Barbastathis, "Grating micro-spectrometer without moving parts," (invited paper) OSA Annual Meeting, September 2002.

Patents

1. D. Psaltis, M. Levene, A. Pu, and G. Barbastathis, "Holographic storage using shift multiplexing," US Patent No. 5,671,073, issued 09/23/97.
2. C. Moser, G. Barbastathis, and D. Psaltis, "Conoscopic system for real-time corneal topography," US Patent No. 5,909,270, issued 06/01/99.
3. D. Psaltis, M. Levene, A. Pu, and G. Barbastathis, "Holographic storage using shift multiplexing," US Patent No. 5,949,558, issued 09/07/99.
4. J.-J. Drolet, G. Barbastathis, and D. Psaltis, "Compact architecture for volume holographic memories," US Patent No. 5,959,747, issued 09/28/99.
5. F. Mok, G. Barbastathis, and D. Psaltis, "Non-volatile readout of shift multiplexed holograms," US Patent No. 5,978,112, issued 11/02/99.
6. J.-J. Drolet, G. Barbastathis, and D. Psaltis, "Compact architecture for volume holographic memories," US Patent No. 6,072,608, issued 06/06/00.
7. D.-Z. A. Chen, and G. Barbastathis, "Micro-opto-electro-mechanical switch using total internal reflection," US Patent No. 6,433,911, issued 08/13/02.
8. G. Barbastathis and A. Sinha, "System and method for increasing the diffraction efficiency of holograms," US Patent No. 6,621,633, issued 09/16/03.